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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,326	10/15/2004	Kouji Ishida	Q84036	6667

23373 7590 05/31/2005
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EXAMINER

HUANG, MEI QI

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/511,326

Applicant(s)

ISHIDA ET AL.

Examiner

Mei Q. Huang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: The selective format of various groups in this claim is improper wherein it is not clear whether the individual members in the group are selected in alternatives only or in both alternatives and combinations. In general, when the members in a group are individually chosen as alternatives, the format, "selected from A, B, ..., or X" or "selected from the group consisting of A, B, ..., and X", should be used; and when the members in a group are chosen both in alternatives and combinations, the format "selected from the group consisting of A, B, ..., X, and mixtures thereof" should be used. See MPEP 2173.05 (h). Applicants are requested to amend the selective formats of the instant claims according to the above guidance. Appropriate correction is required.
2. Claims 2-5 and 8 are objected to because of the following informalities: "A rubber composition for inner liners according to" in Claims 2-5 and 8 should be changed to "the rubber composition for inner liners according to. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Ajbani et al. (U.S. Pub. No. 2003/0004250 A1, U.S. Patent No. 6,721,311).

The claimed subject matter relates to a rubber composition for inner liners, which comprises at least one rubber selected from diene-based synthetic or natural rubbers and an organized lamellar clay mineral. The rubber component has a glass transition temperature of -55° C or lower.

The prior art to Ajbani et al. relates to a light weight rubber blend that can be beneficially used in rubber articles (Abstract) comprising an amino group containing rubbery polymer and layered silicate clay [0021] wherein the amino group containing rubbery polymer is vinylpyridine-styrene-butadiene rubber with Tg of -61° C, see [0085], Examples 4-5 and Table 1, which reads on the instantly claimed diene-based synthetic rubbers having a Tg of -55° C or lower. Ajbani et al. further teach that the layered silicate clays used in the invention are smectite, vermiculite and mica families and do not include clays that do not have any appreciable swelling potential [0052]. The layered silicate clay being chemically modified by surfactants such as dimethyl dehydrogenated tallow ammonium salt can be seen at [0052], which reads on the instantly claimed organized lamellar clay mineral.

In regard to the limitation of the rubber composition's capability of being used for inner liners in the instant claim 1, it is the examiner's position to treat the limitation as an intended use of the composition. As discussed above, Ajbani et als' rubber composition

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is substantially identical to that of the present application. Therefore, the recitation of a new intended use for an old product does not make a claim to be product patentable. *In re Schreiber*, 128F. 3d 1473, 1477, 44 USPQ 1429, 1431 (Fed. Cir. 1997).

As to the brittle point of the rubber composition as required by claim 5, as discussed above, the prior art composition is substantially identical to the instantly claimed composition. Therefore, it is the examiner's position to believe that the prior art composition must inherently possess the same brittle point at a low temperature of -40° C or lower. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to the applicant to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596, (CCPA 1980).

In sum, all the limitations of Claims 1 and 3-5 are fully met by Ajbani et als' disclosure.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klemmensen et al. (U.S. Patent No. 5,005,625) in view of Ajbani et al. (U.S. Pub. No. 2003/0004250 A1, U.S. Patent No. 6,721,311).

The prior art to Klemmensen et al. discloses a pneumatic rubber tire having an integral inner liner of a sulfur cured rubber composition comprised of an acrylonitrile/diene copolymer rubber with specified T_g range and at least one designated additional rubber having a T_g of a specified range (Abstract). The specific T_g range of -40° C to -105° C for a rubber component including styrene-butadiene copolymer rubber is taught at column 5, line 52-57. The difference between the prior art and the present application is that Klemmensen et al. disclose the use of rubber compounding ingredients comprising clay or mica but do not specify that the clay or mica is organically modified as required by the instant application.

The prior art to Ajbani et al. is adequately presented in paragraph 4 previously in this Office Action and is incorporated herein by reference. Ajbani et al. disclose that the clays used in the invention are layered silicate clays of the smectite, vermiculite and mica families and do not include clays that do not have any appreciable swelling potential [0052]. The layered silicate clay being chemically modified by surfactants such as dimethyl dehydrogenated tallow ammonium salt and the benefit of such clay modification, i.e. making it compatible with organic compositions and in general allowing it to provide rheological modification in select organic fluids, can also be seen at [0052].

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In light of Ajbani et als' teaching as discussed above, one having ordinary skill in the art at the time the invention was made would have appreciated the benefit of using an organically modified layered clay, such as an organically modified mica, and use it in Klemmensen et als' rubber composition, thus to arrive the instant claim motivated by a reasonable expectation of successfully obtaining the corresponding rubber composition.

In regard to claim 5, brittle point at low temperatures of -40° C or lower is exemplified at column 5-6, Table 1-2.

As to claims 6-8, Klemmensen et als' invention provides a pneumatic rubber tire having an integral inner-liner of the rubber composition as discussed above (Abstract, column 1, line 48-61, column 5, line 45-66, and column 6, line 44-66).

Conclusion

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure. The following references have been cited to show the state of the art with respect to the study of rubber composition for tire inner-liner.

U.S. Pub. No. 2002/0151636 to Wada et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mei Q. Huang whose telephone number is (571) 272-3549. The examiner can normally be reached on 8am - 4pm, Mon. - Fri..


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mei Q. Huang
Examiner

May 23, 2005


DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700